

# Sealed Power Inductors

BWVT Series



BWVT series, an automatic assembly constructed power inductor, is shielded with magnetic resin and suitable for portable DC-DC converter applications.

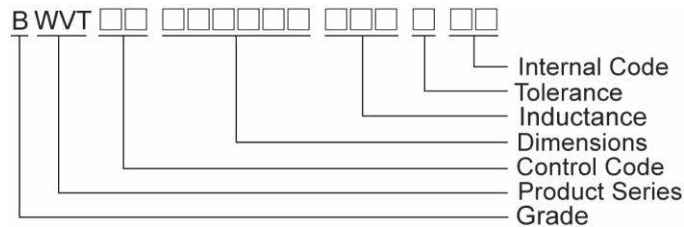
## Features

- RoHS, Halogen Free and REACH Compliance
- Shielded with magnetic resin
- Various package size and wide inductance range
- Optimize electrical characteristics by using different ferrite core figures

## Applications

- Smartphones, tablets and wearable devices
- DSC, camcorders
- AP Routers
- STBs
- LCD TVs, monitors and panels
- Game consoles
- DC/DC converters

## Product Identification



## Shape and Dimensions

Figure 1

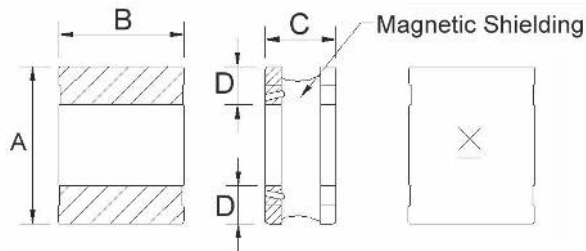
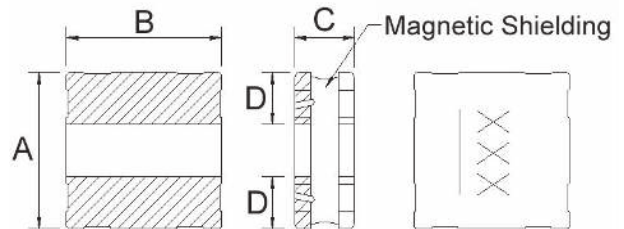


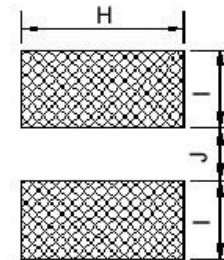
Figure 2



Dimensions in mm

TYPE	FIG	A	B	C	D	H	I	J
BWVT00201610	1	2.0±0.25	1.6±0.25	1.00Max	0.6	1.8	0.80	0.8
BWVT00252010	1	2.5±0.25	2.0±0.25	1.02 Max	0.8	2.2	0.85	0.8
BWVT00252012	1	2.5±0.25	2.0±0.25	1.2±0.05	0.8	2.2	0.85	0.8
BWVT00303010	2	3.0±0.20	3.0±0.20	1.02 Max	1.0	3.2	1.1	1.0
BWVT00303012	2	3.0±0.20	3.0±0.20	1.20 Max	1.0	3.2	1.1	1.0
BWVT00404012	2	4.0±0.20	4.0±0.20	1.2±0.1	1.5	4.2	1.5	1.2

## Recommended Pattern



## Shape and Dimensions

Figure 3

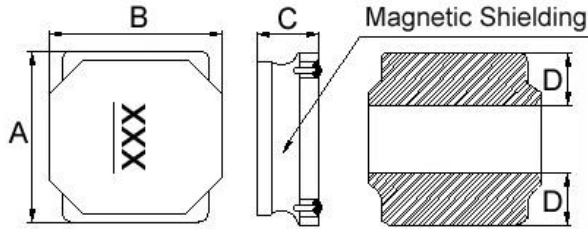
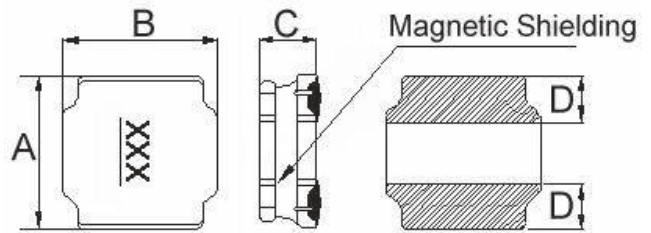


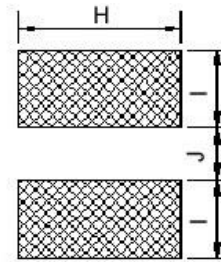
Figure 4



Dimensions in mm

TYPE	FIG	A	B	C	D	H	I	J
BWVT00404015	3	4.0±0.25	4.0±0.25	1.5±0.2	1.3	3.7	1.5	1.2
BWVT00404026	3	4.0±0.20	4.0±0.20	2.6±0.2	1.4	3.7	1.6	1.2
BWVT00505020	4	5.0±0.2	5.0±0.2	2.0±0.2	1.8±0.3	4.2	1.6	2.0
BWVT00606020	4	6.0±0.2	6.0±0.2	2.0±0.2	1.7±0.3	5.7	1.7	2.8
BWVT00808040	4	8.0±0.2	8.0±0.2	4.0 <sup>+0.2</sup> <sub>-0.30</sub>	2.3±0.3	7.5	2.5	3.4

## Recommended Pattern



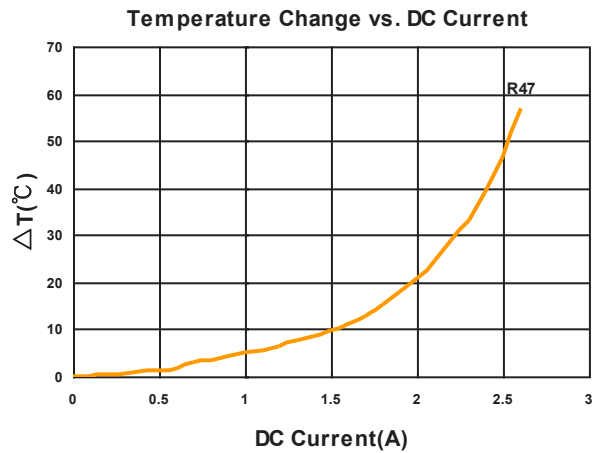
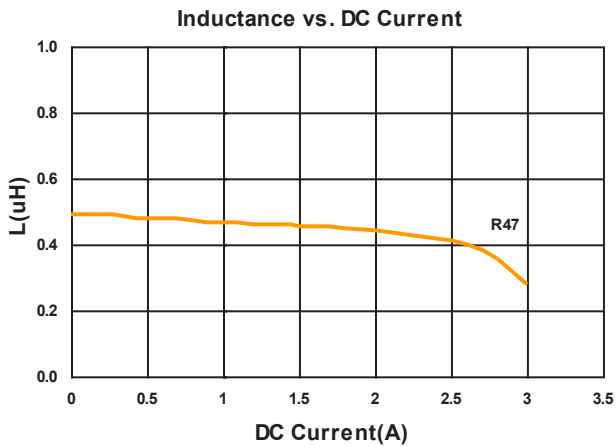
## Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC (mΩ) ±30%	Isat (A) Typ. (Max)	Irms (A) Typ. (Max)	Marking
BWVT00201610R47□00	0.47	20, 30	1	72	2.4(2.16)	2.4(2.16)	A

**Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T =±30%**

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Isat for Inductance drop 30% from its value without current
- Irms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
- L : Agilent HP4287A+Agilent HP16197A, 1MHz 200mV
- RDC : DIGITAL MILLINHM METER CHROMA 16502, or equivalent
- Isat & Irms : Agilent HP4284A

**Test Instruments :** HP4284A Material/Impedance Analyzer



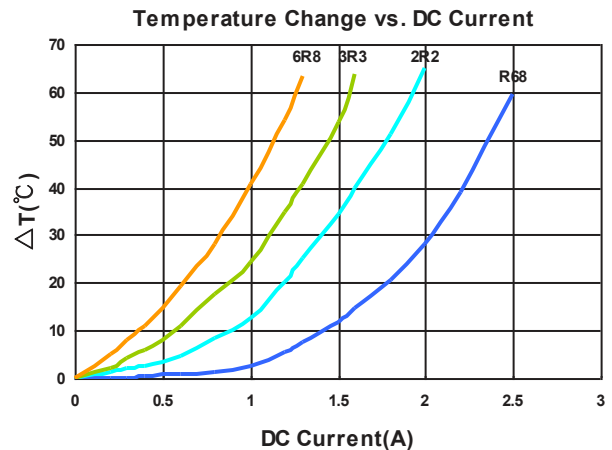
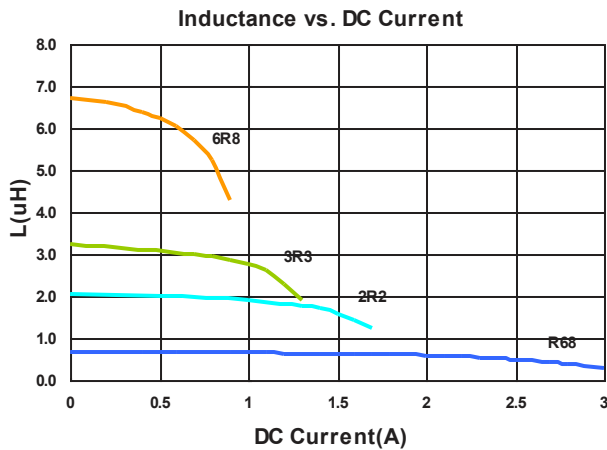
## Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC (Ω) ±30%	Isat (A) Typ. (Max)	Irms (A) Typ. (Max)	Marking
BWVT00252010R68□00	0.68	20, 30	1	0.050	2.40(2.160)	2.20(1.980)	K
BWVT002520102R2□00	2.2	20, 30	1	0.135	1.42(1.270)	1.55(1.390)	D
BWVT002520103R3□00	3.3	20, 30	1	0.220	1.12(1.000)	1.20(1.080)	E
BWVT002520106R8□00	6.8	20, 30	1	0.435	0.78(0.700)	0.84(0.750)	G

**Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T =±30%**

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- I rms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
- L : Agilent HP4287A+Agilent HP16197A, 1MHz 200mV  
RDC : DIGITAL MILLINHM METER CHROMA 16502, or equivalent  
Isat & I rms : Agilent HP4284A

## Test Instruments : HP4284A Material/Impedance Analyzer



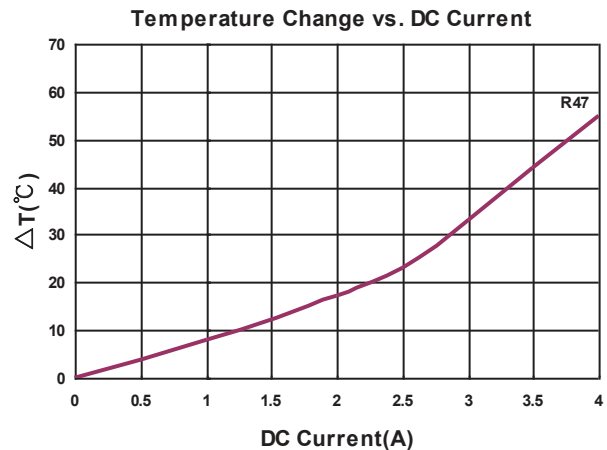
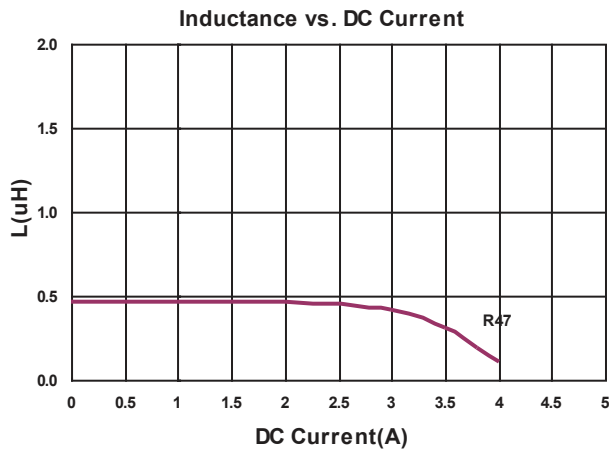
## Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC (Ω) ±30%	Isat (A) Typ. (Max)	Irms (A) Typ. (Max)	Marking
BWVT00252012R47□00	0.47	20, 30	1	0.027	3.70(3.330)	3.10(2.790)	A

**Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T =±30%**

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Isat for Inductance drop 30% from its value without current
- Irms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
- L : Agilent HP4287A+Agilent HP16197A, 1MHz 200mV
- RDC : DIGITAL MILLINHM METER CHROMA 16502, or equivalent
- Isat & Irms : Agilent HP4284A

**Test Instruments :** HP4284A Material/Impedance Analyzer



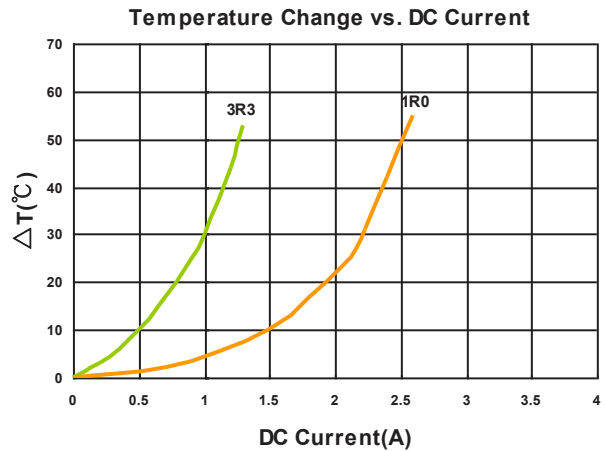
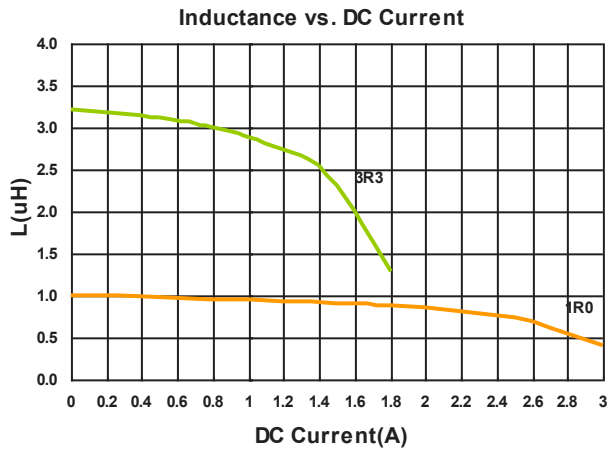
## Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC (Ω) ±30%	Isat (A) Typ. (Max)	Irms (A) Typ. (Max)	Marking
BWVT003030101R0□00	1.0	20, 30	1	0.063	2.4(2.16)	2.3(2.07)	1R0
BWVT003030103R3□00	3.3	20, 30	1	0.165	1.2(1.08)	1.1(0.99)	3R3

**Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T =±30%**

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Isat for Inductance drop 30% from its value without current
- Irms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
- L : Agilent HP4287A+Agilent/HP16197A, 1MHz 200mV  
 RDC : DIGITAL MILLINHM METER CHROMA 16502, or equivalent  
 Isat & Irms : Agilent HP4284A

**Test Instruments :** HP4284A Material/Impedance Analyzer



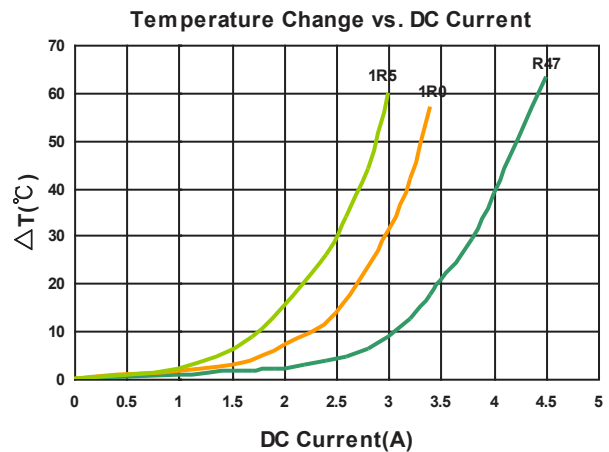
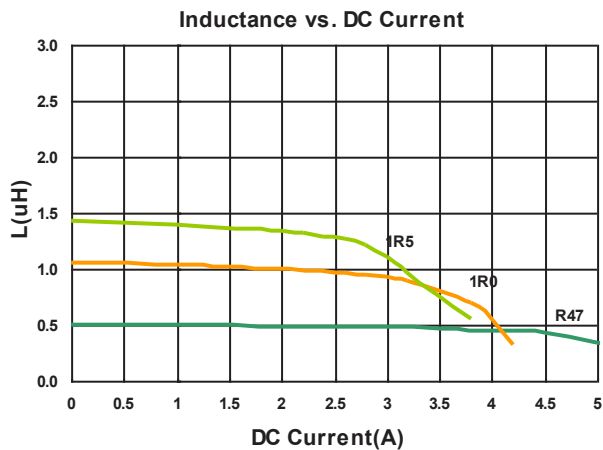
## Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC (Ω) ±30%	Isat (A) Typ. (Max)	Irms (A) Typ. (Max)	Marking
BWVT00303012R47□00	0.47	20, 30	1	0.032	4.3(3.87)	4.0(3.60)	R47
BWVT003030121R0□00	1.0	20, 30	1	0.060	3.1(2.79)	3.0(2.70)	1R0
BWVT003030121R5□00	1.5	20, 30	1	0.072	2.7(2.43)	2.6(2.34)	1R5

**Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T =±30%**

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Isat for Inductance drop 30% from its value without current
- Iirms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
- L : Agilent HP4287A+Agilent HP16197A, 1MHz 200mV
- RDC : DIGITAL MILLINHM METER CHROMA 16502, or equivalent
- Isat & Iirms : Agilent HP4284A

**Test Instruments :** HP4284A Material/Impedance Analyzer



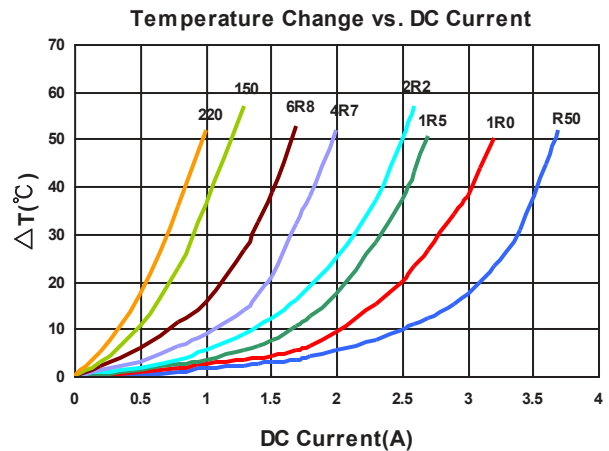
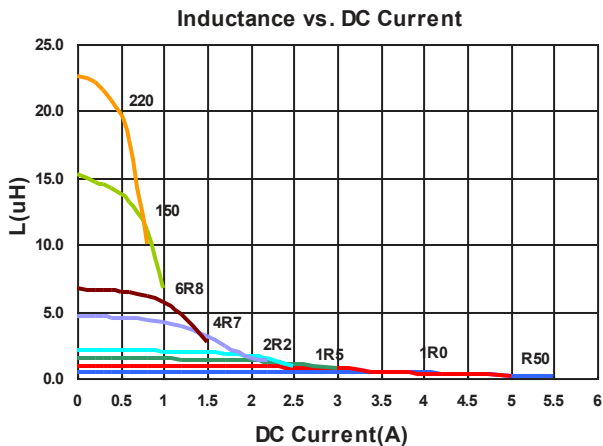
## Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC (Ω) ±30%	Isat (A) Typ. (Max)	Irms (A) Typ. (Max)	Marking
BWVT00404012R50□00	0.5	20, 30	1	0.030	3.90(3.51)	3.50(3.15)	R50
BWVT004040121R0□00	1.0	20, 30	1	0.040	2.90(2.60)	3.00(2.70)	1R0
BWVT004040121R5□00	1.5	20, 30	1	0.051	2.30(2.07)	2.50(2.25)	1R5
BWVT004040122R2□00	2.2	20, 30	1	0.060	1.90(1.71)	2.30(2.07)	2R2
BWVT004040124R7□00	4.7	20, 30	1	0.094	1.32(1.18)	1.80(1.62)	4R7
BWVT004040126R8□00	6.8	20, 30	1	0.135	1.08(0.97)	1.50(1.35)	6R8
BWVT00404012150□00	15	20, 30	1	0.260	0.78(0.70)	1.00(0.90)	150
BWVT00404012220□00	22	20, 30	1	0.390	0.62(0.55)	0.80(0.72)	220

**Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T =±30%**

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- I rms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
- L : Agilent HP4284A+Agilent HP42841A, 1MHz 200mV
- RDC : DIGITAL MILLINHM METER CHROMA 16502, or equivalent
- Isat & I rms : Agilent HP4284A

## Test Instruments : HP4284A Material/Impedance Analyzer





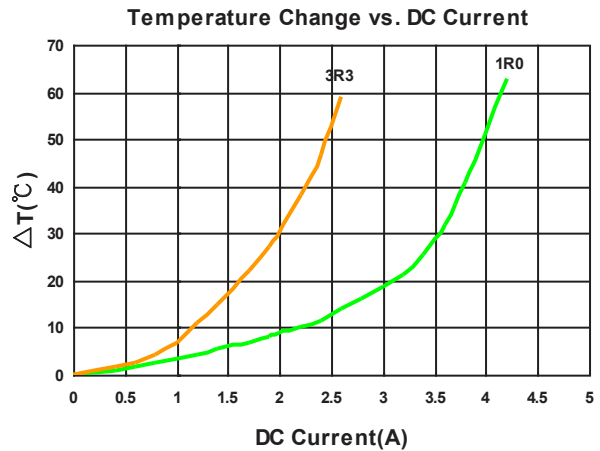
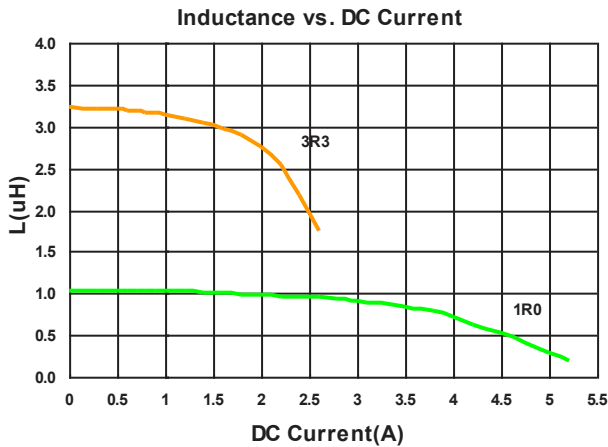
## Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (MHz)	RDC (Ω) ±30%	Isat (A) Typ. (Max)	Irms (A) Typ. (Max)	Marking
BWVT004040151R0□00	1.0	20, 30	1	0.034	3.60(3.24)	3.70(3.33)	1R0
BWVT004040153R3□00	3.3	20, 30	1	0.080	2.00(1.80)	2.20(1.98)	3R3

**Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T =±30%**

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Isat for Inductance drop 30% from its value without current
- Iirms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
- L : Agilent HP4284A+Agilent HP42841A, 1MHz 200mV
- RDC : DIGITAL MILLINHM METER CHROMA 16502, or equivalent
- Isat & Iirms : Agilent HP4284A

**Test Instruments :** HP4284A Material/Impedance Analyzer



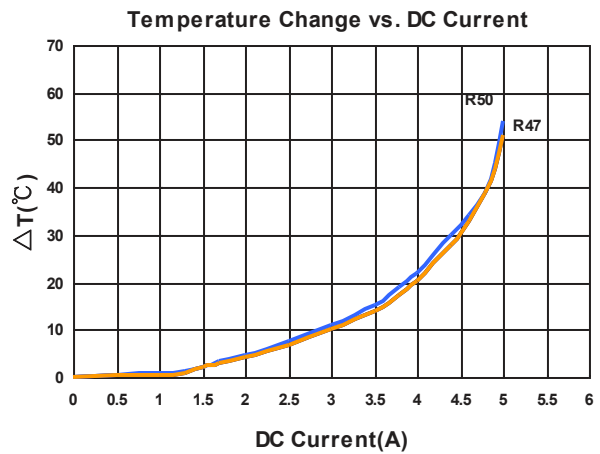
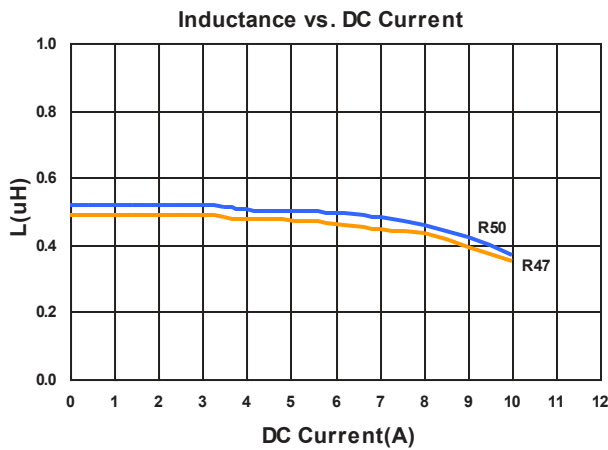
## Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (kHz)	RDC (Ω) ±30%	Isat (A) Typ. (Max)	Irms (A) Typ. (Max)	Marking
BWVT00404026R47□00	0.47	20, 30	100	0.024	7.20(6.48)	4.80(4.32)	R47
BWVT00404026R50□00	0.50	20, 30	100	0.024	7.20(6.48)	4.80(4.32)	R50

**Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T =±30%**

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Isat for Inductance drop 30% from its value without current
- Irms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
- L : Agilent HP4284A+Agilent HP42841A, 100kHz 1V  
RDC : DIGITAL MILLINHM METER CHROMA 16502, or equivalent  
Isat & Irms : Agilent HP4284A

**Test Instruments :** HP4284A Material/Impedance Analyzer



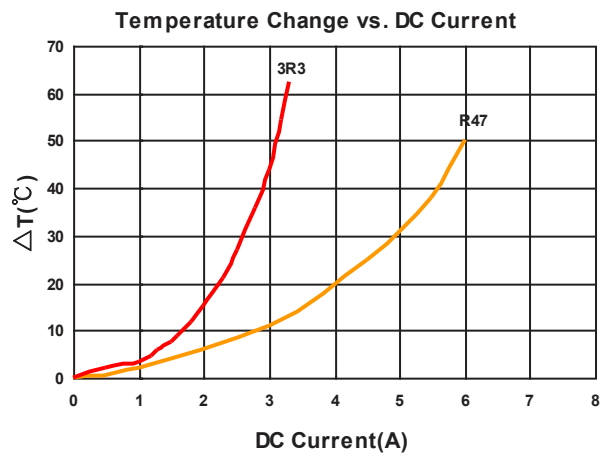
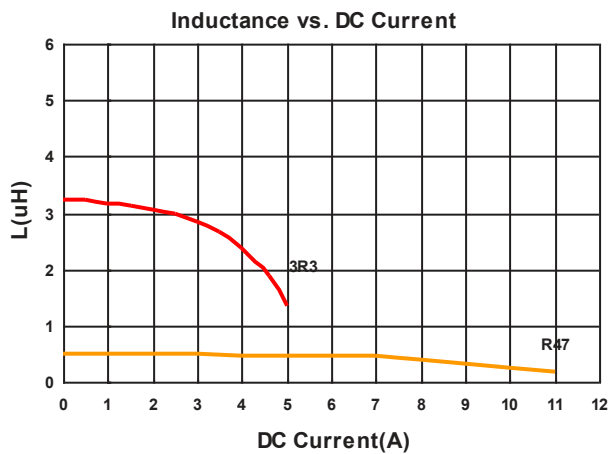
## Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (kHz)	RDC (Ω) ±30%	Isat (A) Typ. (Max)	Irms (A) Typ. (Max)	Marking
BWVT00505020R47□00	0.47	20, 30	100	0.0135	8.0(7.2)	5.5(5.0)	R47
BWVT005050203R3□00	3.3	20, 30	100	0.050	3.4(3.06)	2.7(2.43)	3R3

**Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T =±30%**

- Operating temperature range - 55°C ~ 125°C(Including self - temperature rise)
- Isat for Inductance drop 30% from its value without current
- I rms for a 40°C temperature rise from 25°C ambient with current
- Measure Equipment :
- L : Agilent HP4284A+Agilent HP42841A, 100kHz 1V  
RDC : DIGITAL MILLINHM METER CHROMA 16502, or equivalent  
Isat & I rms : Agilent HP4284A

**Test Instruments** : HP4284A Material/Impedance Analyzer



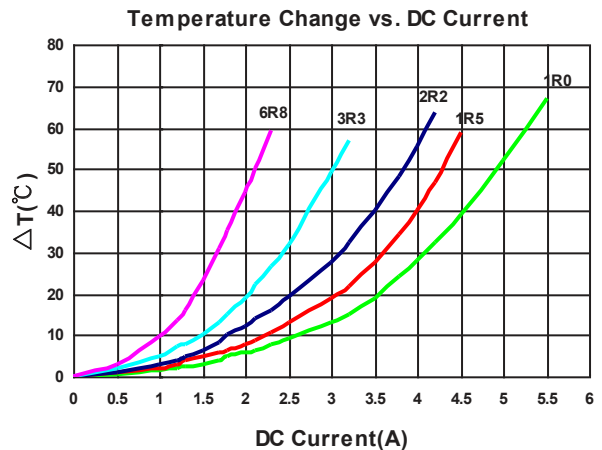
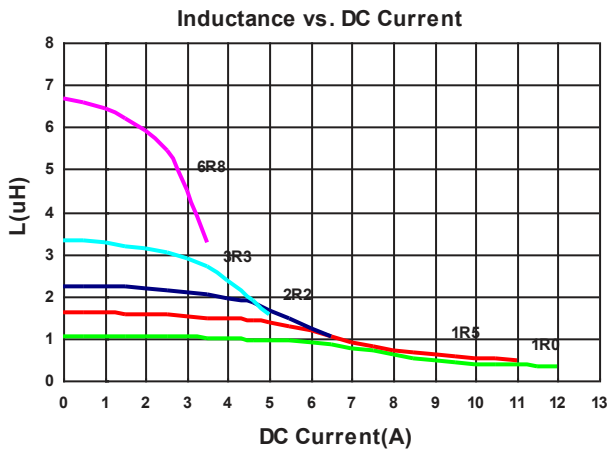
## Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (kHz)	RDC (Ω) ±30%	Isat (A) Typ. (Max)	Irms (A) Typ. (Max)	Marking
BWVT006060201R0□00	1.0	20, 30	100	0.019	6.4(5.76)	4.2(3.78)	1R0
BWVT006060201R5□00	1.5	20, 30	100	0.026	5.4(4.86)	3.7(3.33)	1R5
BWVT006060202R2□00	2.2	20, 30	100	0.034	4.5(4.05)	3.3(2.97)	2R2
BWVT006060203R3□00	3.3	20, 30	100	0.045	3.6(3.24)	2.8(2.52)	3R3
BWVT006060206R8□00	6.8	20, 30	100	0.085	2.6(2.34)	1.9(1.71)	6R8

**Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T =±30%**

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Isat & I rms : Agilent HP4284A

**Test Instruments :** HP4284A Material/Impedance Analyzer



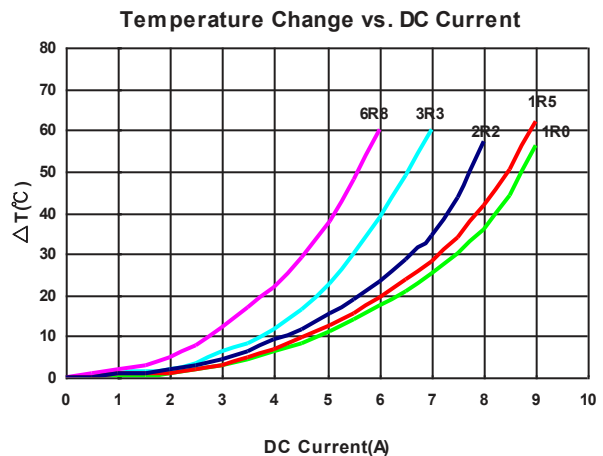
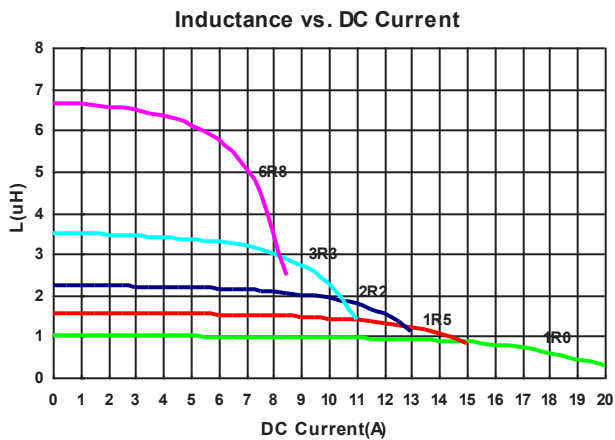
## Electrical Characteristics

Part Number	Inductance (uH)	Tolerance (±%)	Test Frequency (kHz)	RDC (Ω) ±30%	Isat (A) Typ. (Max)	Irms (A) Typ. (Max)	Marking
BWVT008080401R0□00	1.0	20, 30	100	0.0075	13.5(12.15)	8.1(7.29)	1R0
BWVT008080401R5□00	1.5	20, 30	100	0.0097	10.5(9.45)	7.7(6.93)	1R5
BWVT008080402R2□00	2.2	20, 30	100	0.012	9.7(8.73)	7.2(6.48)	2R2
BWVT008080403R3□00	3.3	20, 30	100	0.047	8.0(7.20)	5.9(5.31)	3R3
BWVT008080406R8□00	6.8	20, 30	100	0.029	5.8(5.22)	4.9(4.41)	6R8

**Note: When ordering, please specify tolerance code. Tolerance: M=±20% , T =±30%**

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- Isat for Inductance drop 30% from its value without current
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- Isat & I rms : Agilent HP4284A

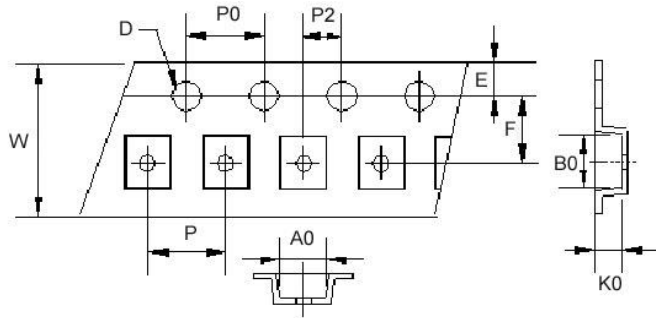
**Test Instruments :** HP4284A Material/Impedance Analyzer



## Packaging Specifications

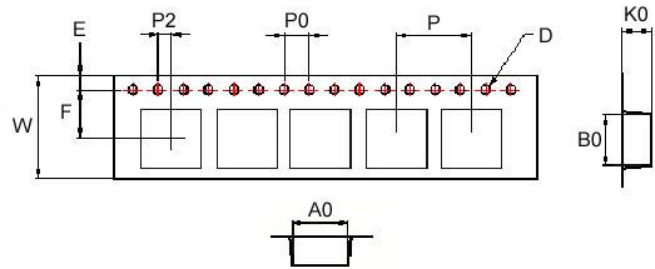
Tape Dimensions

Figure 1



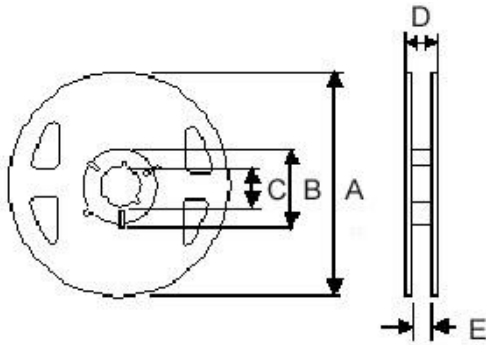
Tape Dimensions

Figure 2



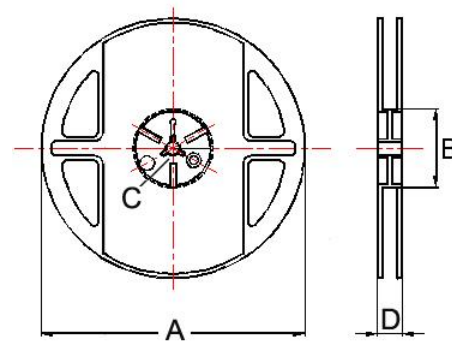
Reel Dimensions

Figure 1



Reel Dimensions

Figure 2



Dimensions in mm

TYPE	Fig	Tape Dimensions										Reel Dimensions					Quantity
		A0	B0	K0	D	E	F	W	P	P0	P2	A	B	C	D	E	PCS / Reel
BWVT00201610	1	1.90	2.20	1.15	1.55	1.75	3.5	8	4	4	2	180	60	13	14.4	8.4	2000
BWVT00252010	1	2.40	2.70	1.15	1.55	1.75	3.5	8	4	4	2	180	60	13	14.4	8.4	2000
BWVT00252012	1	2.40	2.70	1.35	1.55	1.75	3.5	8	4	4	2	180	60	13	14.4	8.4	2000
BWVT00303010	1	3.20	3.20	1.40	1.55	1.75	3.5	8	4	4	2	180	60	13	14.4	8.4	2000
BWVT00303012	1	3.20	3.20	1.40	1.55	1.75	3.5	8	4	4	2	180	60	13	14.4	8.4	2000
BWVT00404012	2	4.25	4.25	1.30	1.55	1.75	5.5	12	8	4	2	178	60	13	13.2	-	1000
BWVT00404015	2	4.25	4.25	1.70	1.55	1.75	5.5	12	8	4	2	178	60	13	13.2	-	1000
BWVT00404026	2	4.25	4.25	3.00	1.55	1.75	5.5	12	8	4	2	178	60	13	13.2	-	500
BWVT00505020	2	5.25	5.25	2.20	1.55	1.75	5.5	12	8	4	2	330	100	13	13.4	-	2000
BWVT00606020	2	6.25	6.25	2.20	1.55	1.75	5.5	12	8	4	2	330	100	13	13.4	-	2000
BWVT00808040	2	8.25	8.25	4.15	1.55	1.75	7.5	16	12	4	2	330	100	13	16.0	-	1000

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